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No. of Star. *Notes.*

5. Another star, $9^{\rm m}\cdot6$ at 0° ±, distant 30″ – 35″ ±, estimated by F.C.L.
2. The stars B.D. + 0°·1067 ($9^{\rm m}\cdot5$) and 1069 ($9^{\rm m}\cdot4$) in the same telescopic field with this double are both relatively wide pairs. The measure of this star was secured with the 6½-inch.
14. My estimates of magnitude (made with the 12-inch) probably indicate too large a disparity in magnitude between the components. In the 40-inch they appeared more nearly equal in brightness, the difference seeming to be approximately half a magnitude, as Professor Barnard's estimates tend to show. S.D. 3°·4186 ($9^{\rm m}\cdot2$) is very near in the telescopic field.
1. Colour of the components, white and pale blue.
19. A number of minute stars near the double.
20. A.C. Rough visual estimates.
21. A.C. Coarse visual estimates.
24. C. added by Van Biesbroeck with the 40-inch.
25. The measure in distance is probably slightly too small. C ($14^{\rm m}\cdot2$) detected Sept. 16.
26. S.D. 17°·5593 ($9^{\rm m}\cdot4$), a wide pair, near.
28. A rather wide faint pair a short distance *following.*
31. Companion greenish in lowest ocular. B.D. + 56°·3010 ($9^{\rm m}\cdot1$), a double in which the separation exceeds 5″, is near.

1338 *Madison Park,*
Chicago, Ill., U.S.A.:
1917 *Dec.* 28.

Micrometrical Measures of Double Stars. By Rev. T. E. R. Phillips, M.A.

The stars in the following list were measured in 1917 with the 8-inch refractor belonging to the Society. Special attention was again given to ξ Boötis and 70 Ophiuchi.

Star.	1920. R.A.	1920. Dec.	Mag.	Position-Angle.	Distance.	No. of Nights.	Date.
	h m	° ′		°	″		
OΣ 12 (λ Cassiop.)	0 27·3	+54 5	5·6, 5·9	159·3	0·60	3	1917·778
Σ 60 (η Cassiop.)	0 44·0	57 24	4·0, 7·6	255·4	6·92	4	·624
73 (36 Androm.)	0 50·7	23 12	6·2, 6·8	45·9	0·71	3	·671
149	1 39·8	39 33	8·2, 9·7	100·1	1·33	3	·745
180 (γ Arietis)	1 49·1	18 54	4·2, 4.4	359·6	8·00	3	·872
186	1 51·7	1 27	7·2, 7·2	39·7	0·95	3	·716
202 (α Piscium)	1 57·9	2 23	2·8, 3·9	313·3	2·76	3	·723
OΣ 38 (γ^2 Androm.)	1 59·0	41 57	5·0, 6·2	112·7	0·56	6	·683
Σ 228	2 8·9	47 6	6·7, 7·6	116·1	0·63	3	·959
262 (ι Cassiop.) A.B.	2 22·4	67 3	4·2, 7·1	252·2	1·99	3	·810
A.C.	...	...	4·2, 8·1	111·7	7·23	2	·829
305	2 42·9	19 2	7·3, 8·2	314·9	3·32	3	·864
333 (ε Arietis)	2 54·6	21 2	5·7, 6·0	203·3	1·42	3	·717
380	3 17·4	8 29	8·3, 9·3	56·1	0·90	3	·916
535	4 18·8	11 12	6·7, 8·2	323·9	1·47	2	·945

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Star.	1920. R.A.		Dec.		Mag.	Position-Angle.	Distance.	No. of Nights.	Date.
	h	m	°	′		°	″		
Σ 559	4	28·9	+17	51	7·0, 7·0	275·8	3·02	2	1917·945
OΣ 95	5	0·8	19	42	6·5, 7·0	324·6	0·67	3	·807
Σ 644	5	4·9	37	12	6·7, 7·0	220·6	1·88	3	·864
716 (118 Tauri)	5	24·3	25	5	5·8, 6·6	202·7	4·70	3	·874
OΣ 170	7	13·3	9	26	7·5, 7·5	102·3	1·73	3	·923
175	7	30·1	31	9	6·0, 6·6	328·0	0·75	3	·333
Σ 1110 (Castor)	7	29·5	32	4	2·7, 3·7	217·5	4·96	3	·864
1126	7	35·8	5	24	7·2, 7·5	148·5	1·28	2	·954
1196 (ζ Cancri) A.B.	8	7·6	17	54	5·5, 6·2	296·1	0·76	5	·302
1356 (ω Leonis)	9	24·2	9	25	6·2, 7·2	124·9	0·94	3	·216
1424 (γ Leonis)	10	15·5	20	15	2·0, 3·5	116·5	3·66	4	·208
1670 (γ Virginis)	12	37·7	−1	0	3·6, 3·6	323·8	5·78	3	·402
1865 (ζ Boötis)	14	37·3	+14	4	3·5, 3·9	139·0	0·76	6	·327
1877 (ε Boötis)	14	41·5	27	21	3·0, 6·3	330·8	2·77	2	·338
1888 (ξ Boötis)	14	47·7	19	26	4·7, 6·6	83·2	2·12	4	·229
						83·1	2·22	5	·379
						83·6	2·25	5	·438
						84·0	2·29	5	·520
						84·5	2·20	6	·679
	Mean of all measures :—					83·7	2·22	25	·468
1932 (ι Coronæ)	15	14·9	27	7	5·6, 6·1	11·5	0·60	3	·652
1937 (η Coronæ)	15	19·9	30	34	5·5, 6·0	63·9	0·69	4	·291
2032 (σ Coronæ)	16	11·7	34	1	5·0, 6·1	217·9	4·99	3	·492
2140 (α Herculis)	17	11·0	14	29	3·0, 6·1	110·5	4·42	5	·721
2272 (70 Ophiuchi)	18	1·4	2	31	4·1, 6·1	137·1	4·86	5	·361
						137·0	4·95	5	·474
						136·2	4·97	5	·584
						136·1	4·84	5	·672
						135·6	4·78	5	·816
	Mean of all measures :—					136·4	4·88	25	·581
2382 (ϵ^1 Lyræ)	18	41·7	39	35	4·6, 6·3	8·6	2·80	3	·352
2383 (ϵ^2 Lyræ)	...		...		4·9, 5·2	119·6	2·31	3	·352
2525	19	23·3	27	9	7·4, 7·6	305·2	0·74	3	·547
Aitken 864	19	37·5	72	56	8·8, 9·0	37·0	0·80	2	·318
Σ 2579 (δ Cygni)	19	42·5	44	55	3·0, 7·9	282·4	1·73	4	·392
2583 (π Aquilæ)	19	44·9	10	25	6·0, 6·8	113·1	1·52	3	·785
2603 (ε Draconis)	19	48·5	70	4	4·0, 7·6	7·0	2·79	3	·321
2605 (ψ Cygni)	19	53·6	52	13	5 0, 7·5	180·8	3·04	2	·319
OΣ 413 (λ Cygni)	20	44·3	36	12	5·0, 6·3	51·2	0·63	3	·620
437	21	17·5	32	7	6·5, 7·2	37·9	1·82	3	·910
Σ 2799	21	25·6	10	44	6·6, 6·6	291·1	1·64	3	·910
2822 (μ Cygni)	21	40·5	28	23	4·0, 5·0	133·3	1·39	3	·666
β 75	21	51·5	10	30	8·0, 8·5	49·7	0·75	3	·910
172	22	19·9	−5	15	6·5, 6·5	353·7	0·59	3	·919
Σ 2909	22	24·7	0	26	4·0, 4·1	306·0	2·73	3	·675
OΣ 483 (52 Pegasi)	22	55·2	+11	18	6·2, 7·7	233·4	0·79	3	·699
Σ 3050	23	55·4	33	17	6·0, 6·0	223·9	2·14	3	·699

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Notes.

Σ 1888 (ξ Boötis). The measures in 1917 are puzzling. The angle should still be diminishing somewhat rapidly, but the figures make the comes practically stationary. It is difficult to attribute the discordance entirely to systematic error, as such an effect is not apparent in the measures of 1916.

Σ 2272 (70 Ophiuchi). The measures do not show anything remarkable in 1917.

Σ 2579 (δ Cygni). This is usually considered a difficult pair. The comes is sometimes apparently invisible even in large instruments, and is often best observed in twilight. But in 1917 it was conspicuously easy to see and measure, and is perhaps variable.

Σ 2822 (μ Cygni). The orbit plane is presented nearly edgewise, and the pair is closing rapidly.

Observations of Sirius and Procyon made with the 28-inch Refractor of the Royal Observatory, Greenwich.

(*Communicated by the Astronomer Royal.*)

The following measures of the companion to Sirius are a continuation of those printed in the *Observatory*, **40,** 203, and the *Astronomical Journal*, No. 721.

The estimated magnitude of the companion is given in the fourth column.

t.	*θ.*	*r.*	Mag.	*n.*
	°	″		
1918·077	71·2	10·50	10·0	1
·079	71·0	10·64	10·0	2
·082	70·5	10·65	10·4	1
·085	69·3	10·37	12·0	1
·126	69·9	10·45	9·6	2
·134	69·8	11·04	10·6	1
·162	70·6	10·44	9·7	1
·192	71·5	10·59	9·2	1
·214	71·9	...	9·7	1
·216	71·7	10·86	9·6	2
·222	72·3	...	10·5	1
·225	71·9	10·54	9·7	2
·230	71·5	...	10·2	1

All these observations were made with the full aperture of the 28-inch refractor, and with a power of 450. When two sets of measures were made on the same night, these were obtained some little time apart, when it was found that the definition had remained sufficiently good. There are 17 measures made on 13 nights. Each position is the mean of 5 measures in position-angle and 6 in distance.